

What is claimed is:

1. A software updating system, comprising:
 - a plurality of update data supplying apparatuses for supplying update confirmation information regarding the presence or absence of updates for predetermined software via a network;
 - an electronic device for executing a process in accordance with said update confirmation information supplied from said update data supplying apparatus, wherein
- 10 said electronic device includes:
 - judging means for judging whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;
 - 15 detection means for detecting said update data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which said judging means has judged a confirmation to be necessary;
 - 20 inquiring means for making an inquiry on the presence of updates for said software to said update data supplying apparatus detected by said detection means; and
 - 25 execution means for executing a process based on said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made by said inquiring means, and
- 30 said update data supplying apparatus includes:
 - confirmation means for confirming the presence or absence of updates for said software regarding which there was an inquiry on the presence of updates by said inquiring means of said electronic device; and
 - supplying means for supplying to said electronic device said update confirmation information in accordance with a confirmation result by said confirmation means.

2. The software updating system according to claim 1, wherein said update confirmation information is one of update data for updating said software and information indicating the presence or absence of updates.

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3. The software updating system according to claim 1, wherein said electronic device further comprises storage means for storing an update confirmation cycle for said installed software, and

10 said judging means judges whether or not, among said installed software, there exists software for which the presence of updates needs to be confirmed based on said update confirmation cycle.

15 4. The software updating system according to claim 1, wherein said judging means of said electronic device judges all of said installed software to be software for which the presence of updates needs to be confirmed when a predetermined event occurs.

20 5. The software updating system according to claim 4, wherein said event is one of the turning on of the power of said electronic device and the arrival of a predetermined time.

25 6. The software updating system according to claim 1, wherein after said update data supplying apparatus is detected by said detection means, said inquiring means of said electronic device waits until a predetermined time and makes an inquiry on the presence of updates for said software.

30 7. An information processing apparatus which executes a process in accordance with update confirmation information supplied from a plurality of update data supplying apparatuses that supply via a network said update confirmation information regarding the presence or absence of updates for predetermined software, comprising:

judging means for judging whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;

5 detection means for detecting said update data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which said judging means has judged a confirmation to be necessary;

10 inquiring means for making an inquiry on the presence of updates for said software to said update data supplying apparatus detected by said detection means; and

 execution means for executing a process based on said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made by said inquiring means.

15 8. An information processing method of an information processing apparatus which executes a process in accordance with update confirmation information supplied from a plurality of update data supplying apparatuses that supply via a network said update confirmation information regarding the presence or absence of updates for 20 predetermined software, comprising the steps of:

 judging whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;

25 detecting said update data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which a confirmation has been judged to be necessary in said judging step;

 making an inquiry on the presence of updates for said software to said update data supplying apparatus detected in said detection step; and

30 executing a process based on said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made in said step of making said inquiry.

9. A recording medium in which is recorded a computer readable program for an information processing apparatus which executes a process in accordance with update confirmation information supplied from a plurality of update data supplying apparatuses that supply via a network said update confirmation information regarding the presence or absence of updates for predetermined software, said program comprising:

5 a judging control step for controlling the judgment as to whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;

10 a detection control step for controlling the detection of said update data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which a confirmation has been judged to be necessary in said judging control step;

15 an inquiry control step for controlling the making of an inquiry on the presence of updates for said software to said update data supplying apparatus detected in said detection control step; and

20 an execution control step for controlling the execution of a process based on said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made in said inquiry control step.

10. A program for an information processing apparatus which executes a process in accordance with update confirmation information supplied from a plurality of update data supplying apparatuses that supply via a network said update confirmation information regarding the presence or absence of updates for predetermined software, wherein said program makes a computer execute a process, comprising:

25 a judging control step for controlling the judgment as to whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;

30 a detection control step for controlling the detection of said update

data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which a confirmation has been judged to be necessary in said judging control step;

5 an inquiry control step for controlling the making of an inquiry on the presence of updates for said software to said update data supplying apparatus detected in said detection control step; and

10 an execution control step for controlling the execution of a process based on said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made in said inquiry control step.

11. A software updating system, comprising:

15 a plurality of update data supplying apparatuses for supplying update confirmation information regarding the presence or absence of updates for predetermined software via a network;

20 a first electronic device for executing a process in accordance with said update confirmation information; and

25 a second electronic device for supplying to said first electronic device said update confirmation information supplied from said update data supplying apparatus, wherein

said first electronic device includes:

judging means for judging whether or not, among installed software, there exists software for which the presence of updates needs to be confirmed;

25 detection means for detecting said update data supplying apparatus to which an inquiry is to be made on the presence of updates for said software for which said judging means has judged a confirmation to be necessary;

30 request means for making a request to said second electronic device to make an inquiry to said update data supplying apparatus detected by said detection means on the presence of updates for

said software; and

 execution means for executing a process based on said update confirmation information supplied from said second electronic device in response to said request made by said request means,

5 said second electronic device includes:

 inquiring means for making an inquiry, in response to said request made by said request means of said first electronic device, on the presence of updates for said software to said update data supplying apparatus detected by said detection means; and

10 first supplying means for supplying to said first electronic device said update confirmation information supplied from said update data supplying apparatus in response to said inquiry made by said inquiry means, and

 said update data supplying apparatus includes:

15 confirmation means for confirming the presence or absence of updates for said software regarding which there was an inquiry on the presence of updates by said inquiring means of said second electronic device; and

20 second supplying means for supplying to said second electronic device said update confirmation information in accordance with a confirmation result by said confirmation means.

ABSTRACT OF THE DISCLOSURE

It is made possible to update installed software appropriately. A CE device stores an update management table in which are set, with respect to software bundled with the CE device, the names, IDs, version numbers, update cycles, and contact information (URLs of update data supplying servers) for making inquiries on the presence of updates. For example, assuming that everyday, when it is recognized that the time is past 10:00, there is a need to check for the presence of updates for software A, the CE device accesses a URL corresponding to software A, and makes an inquiry on the presence of updates.



FIG. 1

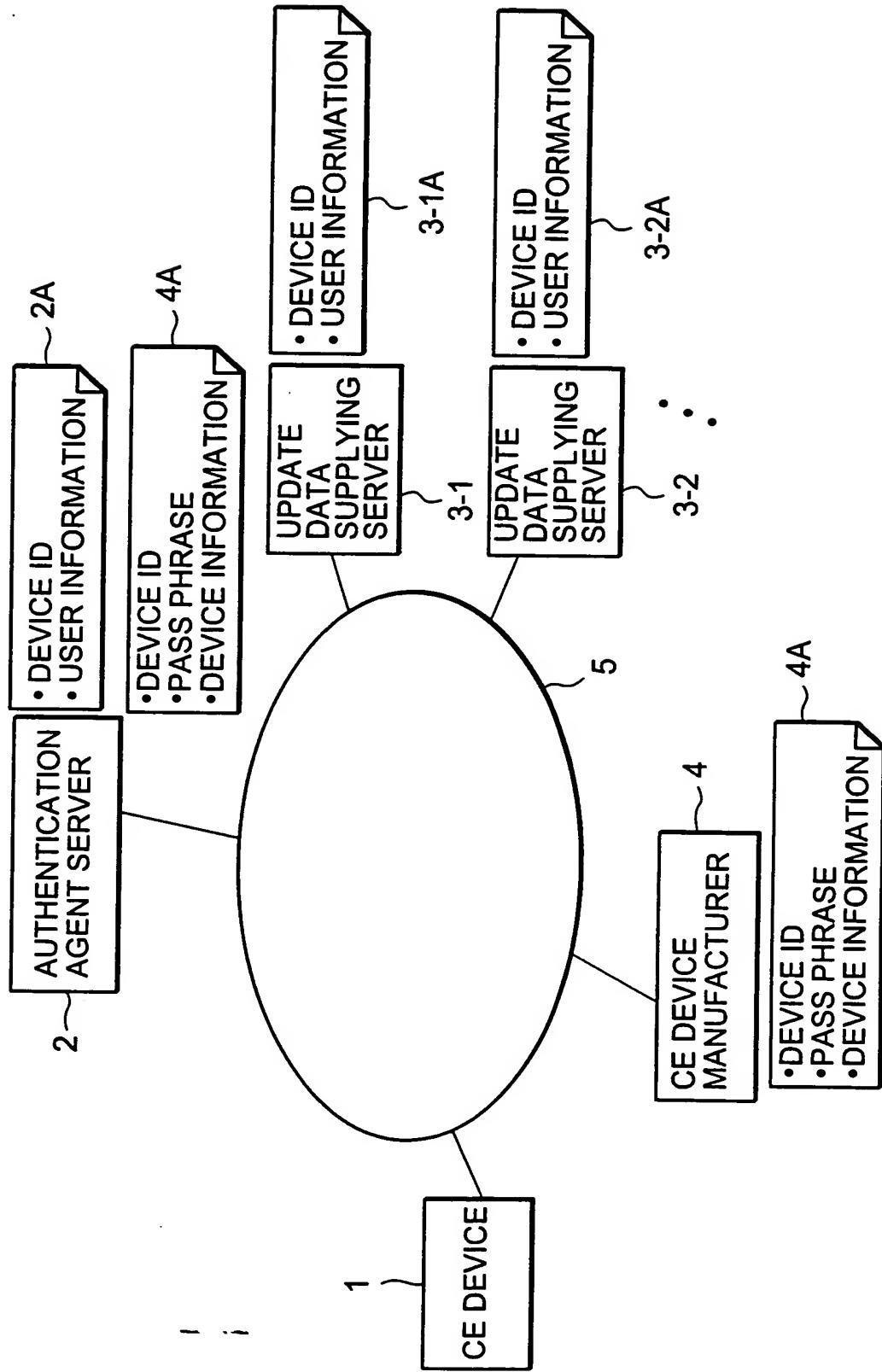


FIG. 2

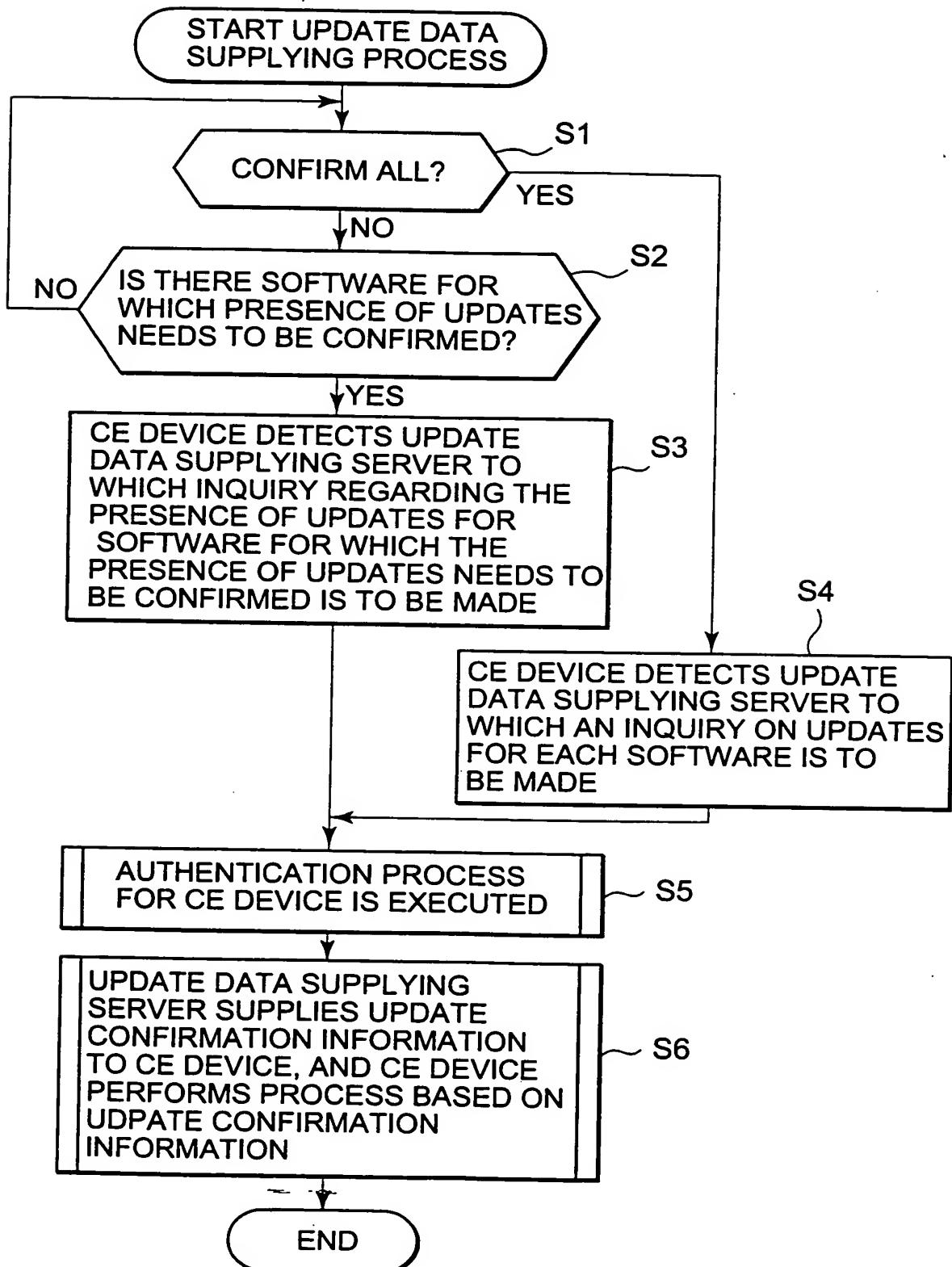


FIG. 3

47

47A

NAME OF SOFTWARE	CONFIRMATION CYCLE
NAME OF SOFTWARE A	EVERY DAY (10:00)
NAME OF SOFTWARE B	EVERY MONDAY (11:00)
NAME OF SOFTWARE C	ON THE 1st DAY OF EVERY MONTH (12:00)

CONFIRM ALL WHEN POWER IS TURNED ON

FIG. 4

NAME OF SOFTWARE	SOFTWARE ID	VERSION NUMBER	CONFIRMATION CYCLE	URL OF UPDATE DATA SUPPLYING SERVER
NAME OF SOFTWARE A	XXXXX	XX	EVERY DAY (10:00)	XXXX
NAME OF SOFTWARE B	XXXXX	XX	EVERY MONDAY (11:00)	XXXX
NAME OF SOFTWARE C	XXXXX	XX	ON THE 1st DAY OF EVERY MONTH (12:00)	XXXX

FIG. 5

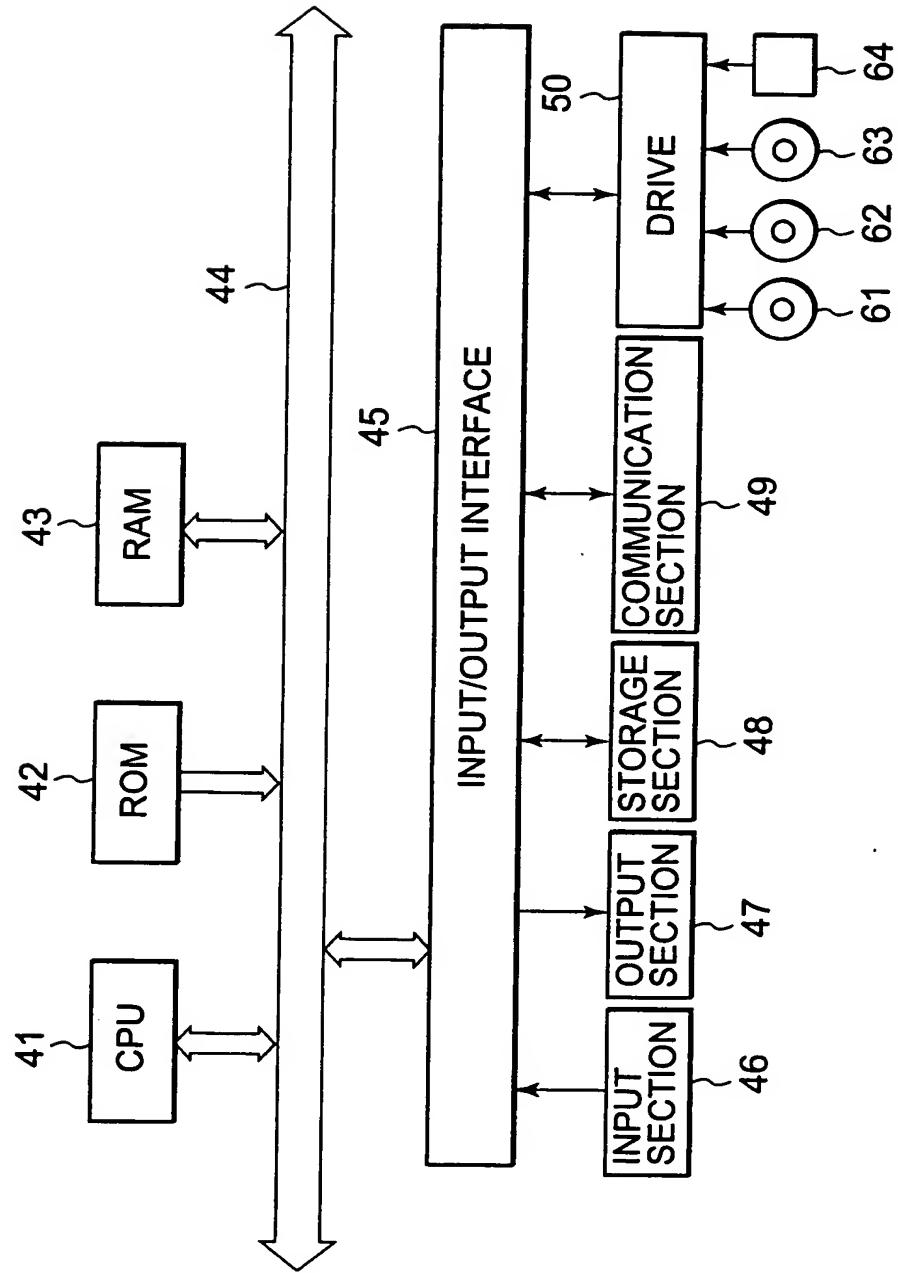


FIG. 6

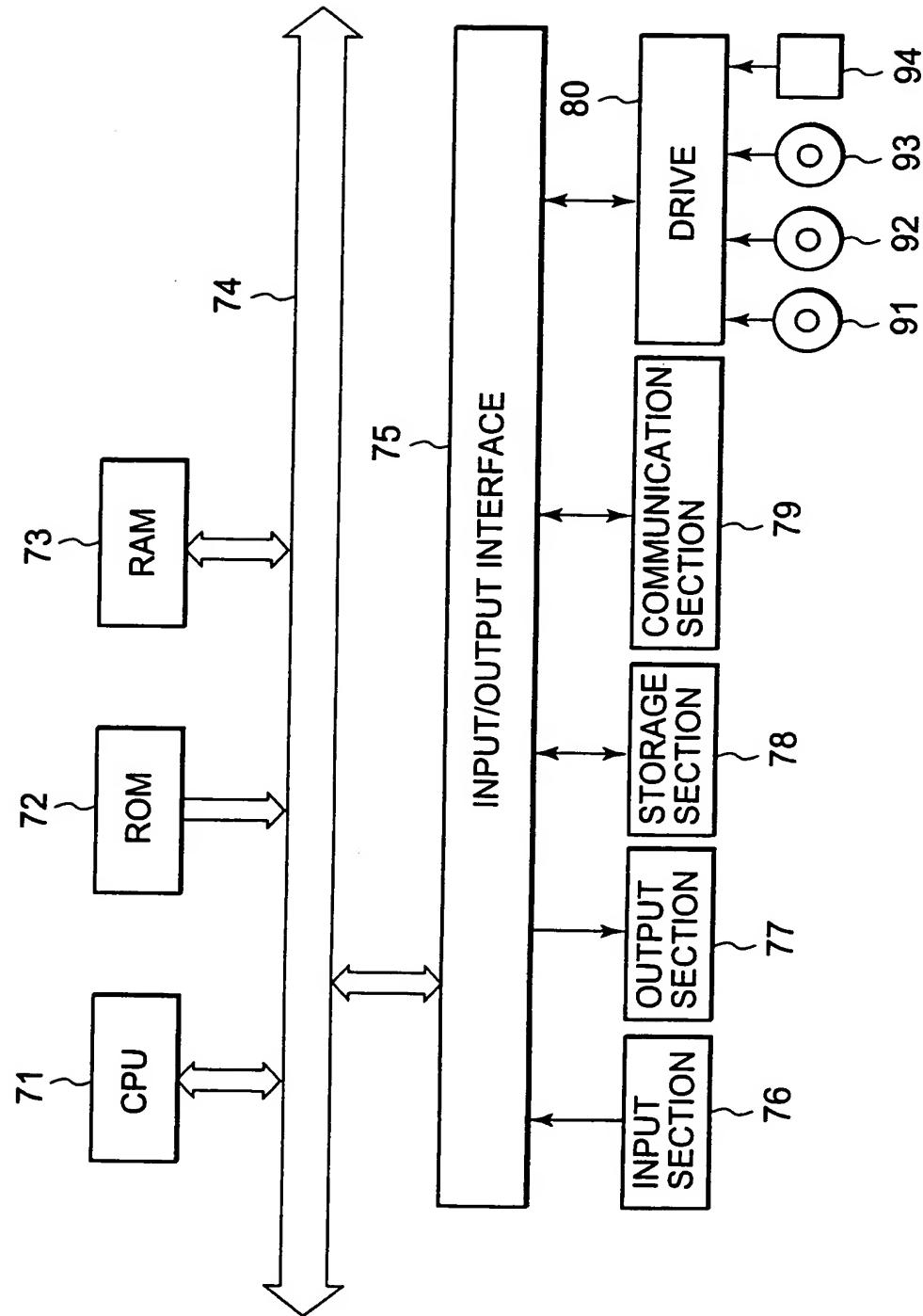


FIG. 7

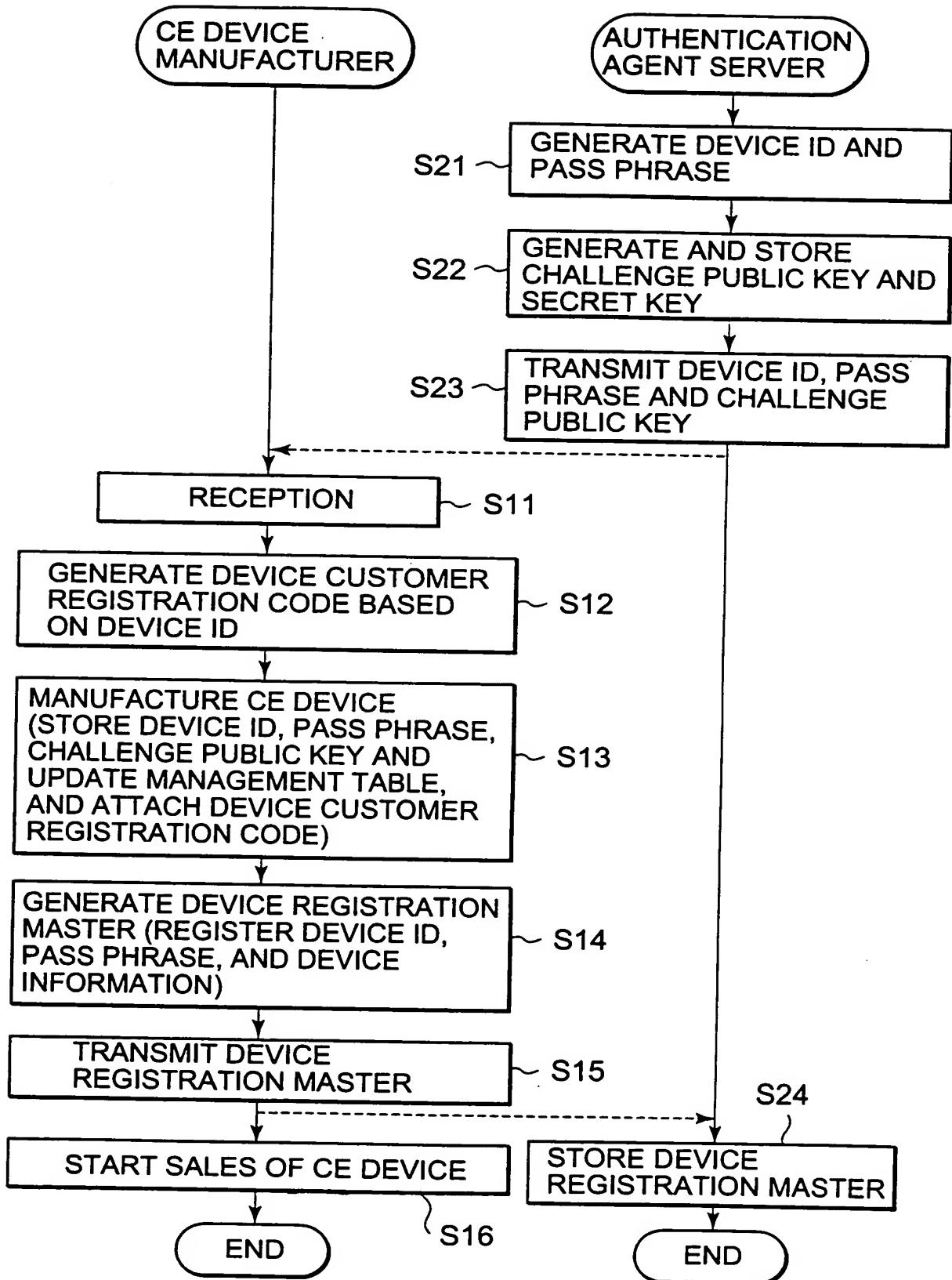


FIG. 8

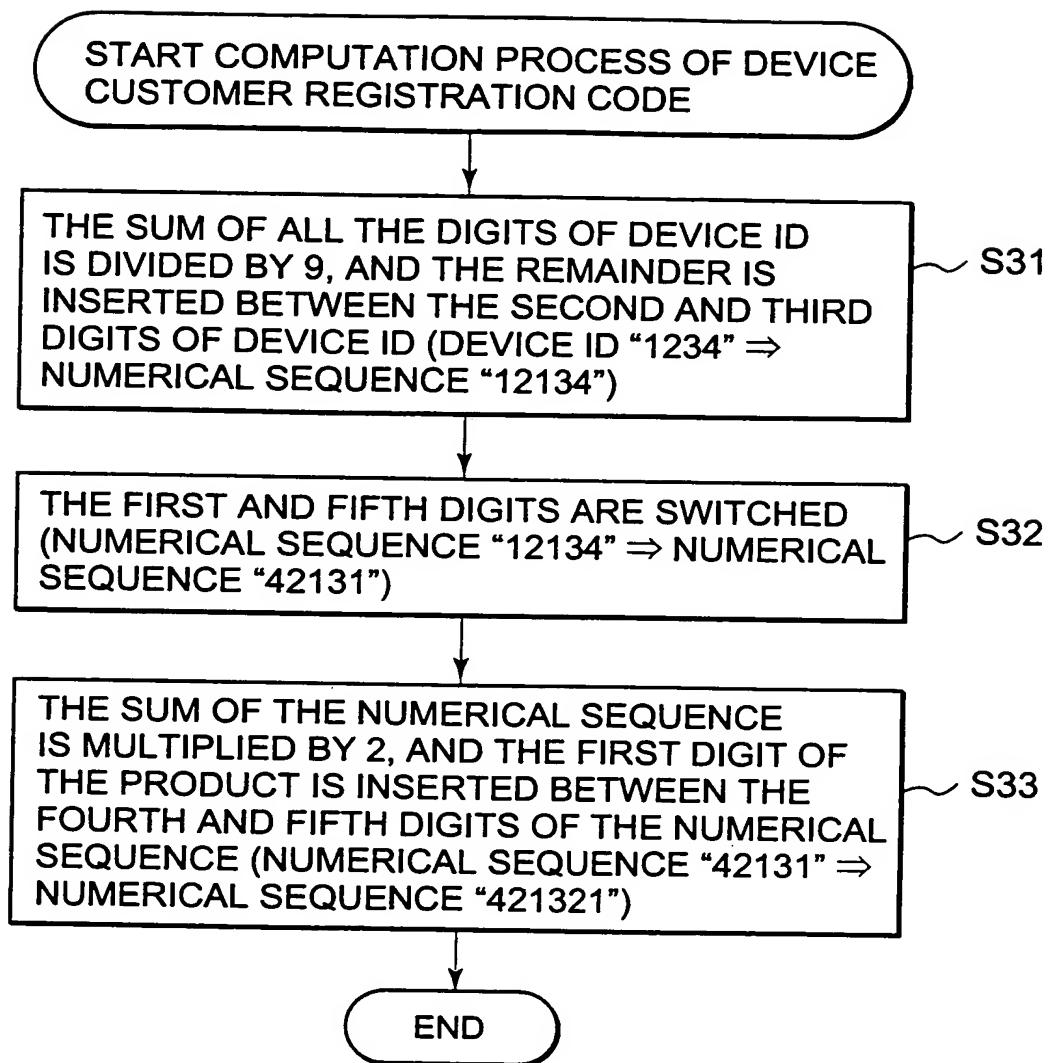


FIG. 9

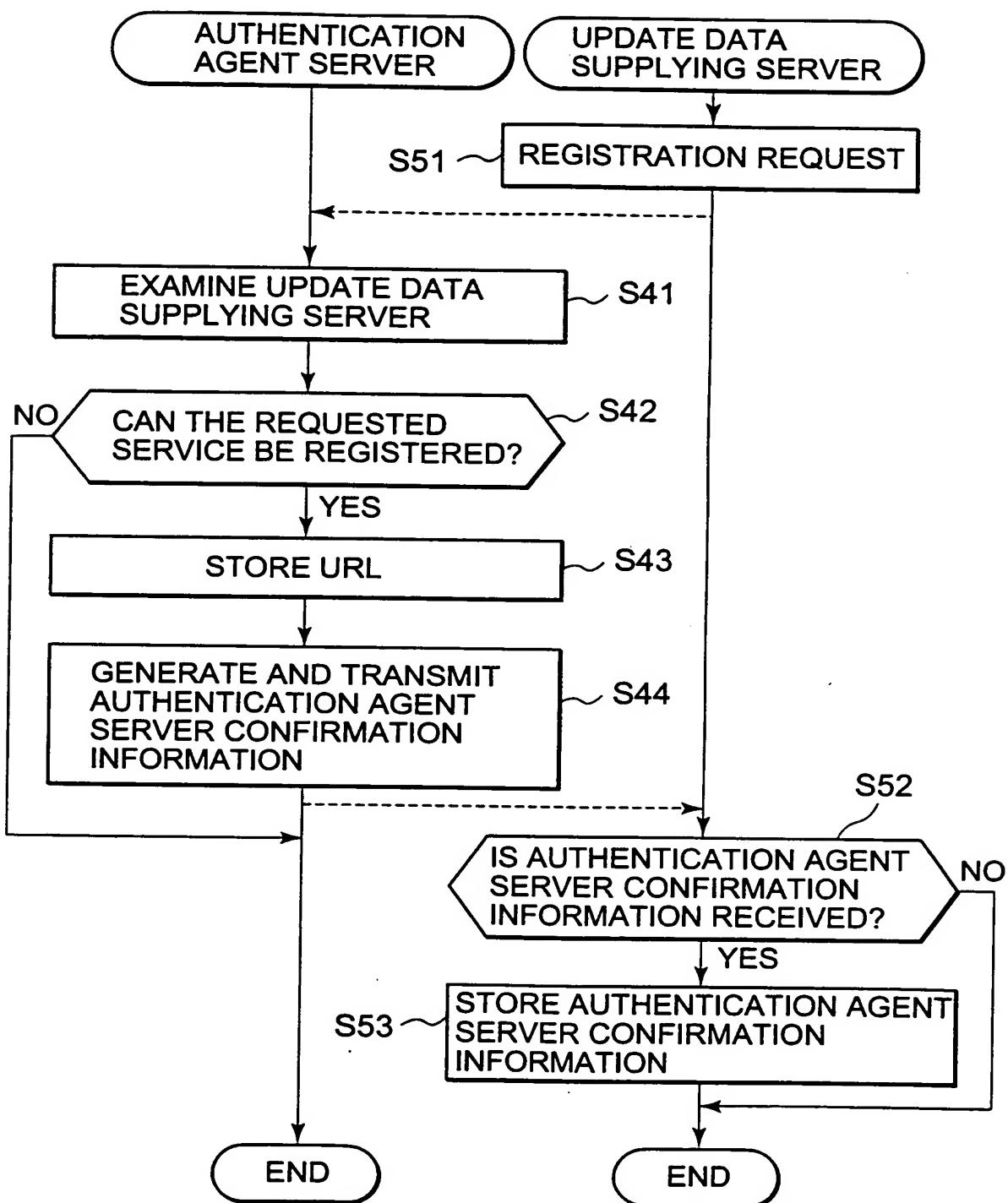
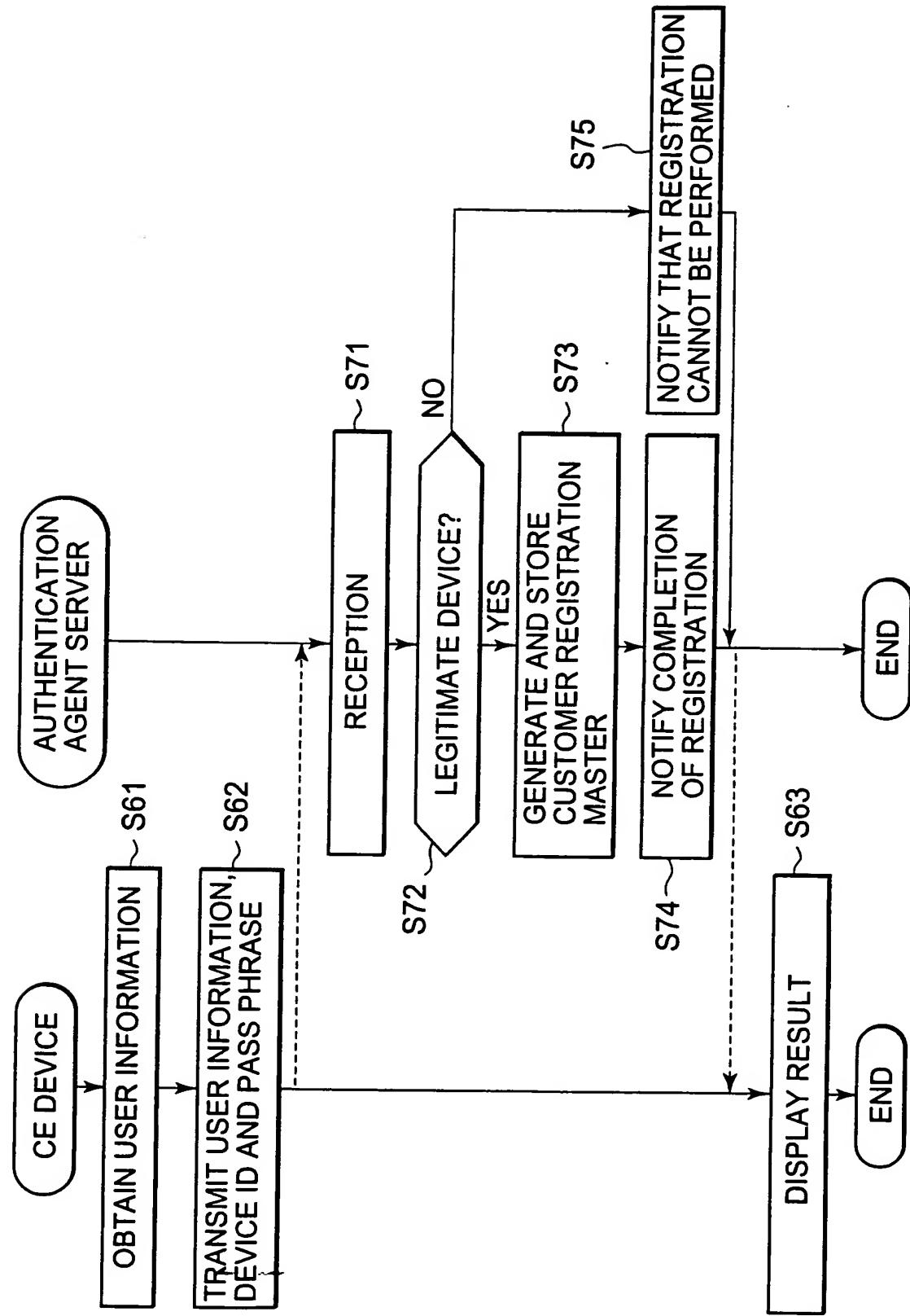


FIG. 10



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FIG. 11

PLEASE INPUT USER INFORMATION TO BE
REGISTERED FOR THE AUTHENTICATION AGENT
SERVICE

DEVICE ID : XXXXX

NAME :

ADDRESS :

PHONE :

...

CONFIRM

47B

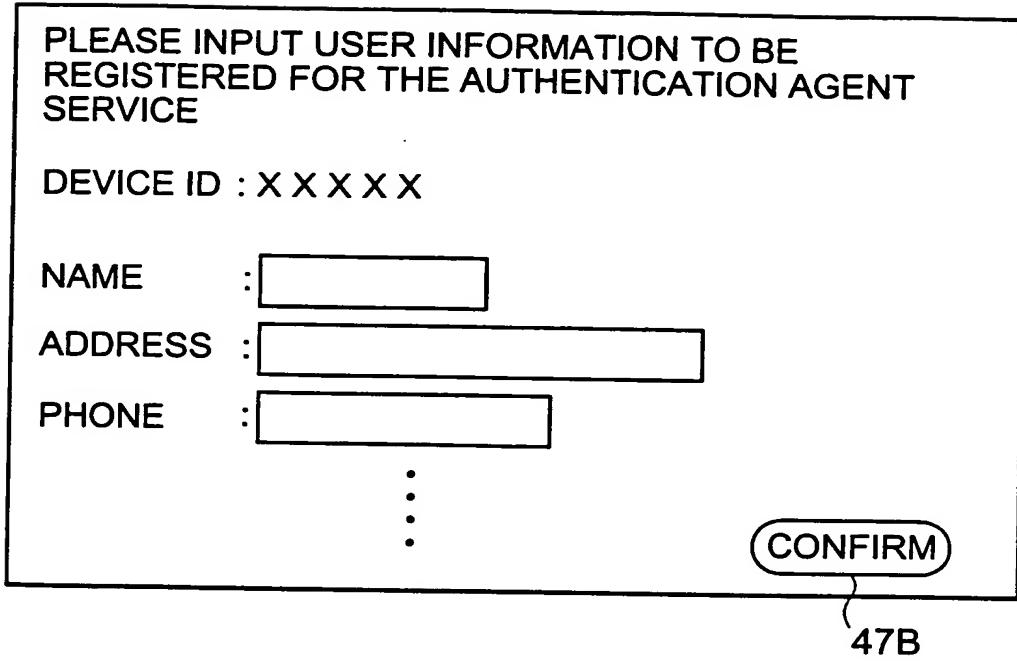


FIG. 12

DEVICE ID : XXXXX

USER INFORMATION :

NAME : XXXXX

ADDRESS : XXXXX

PHONE : XXXXX

...

REGISTER

47C

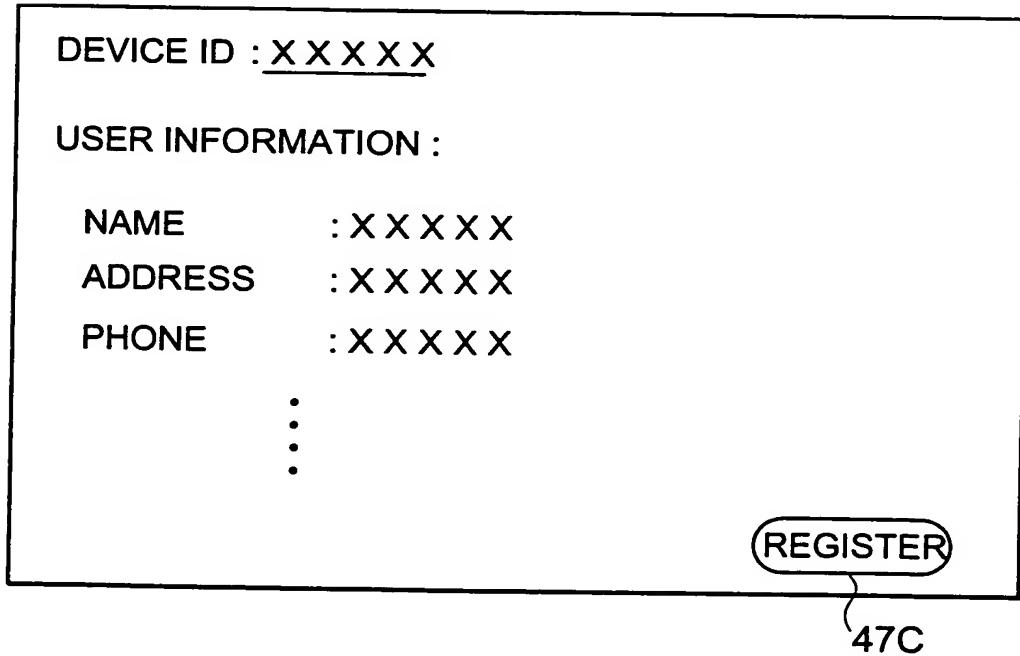


FIG. 13

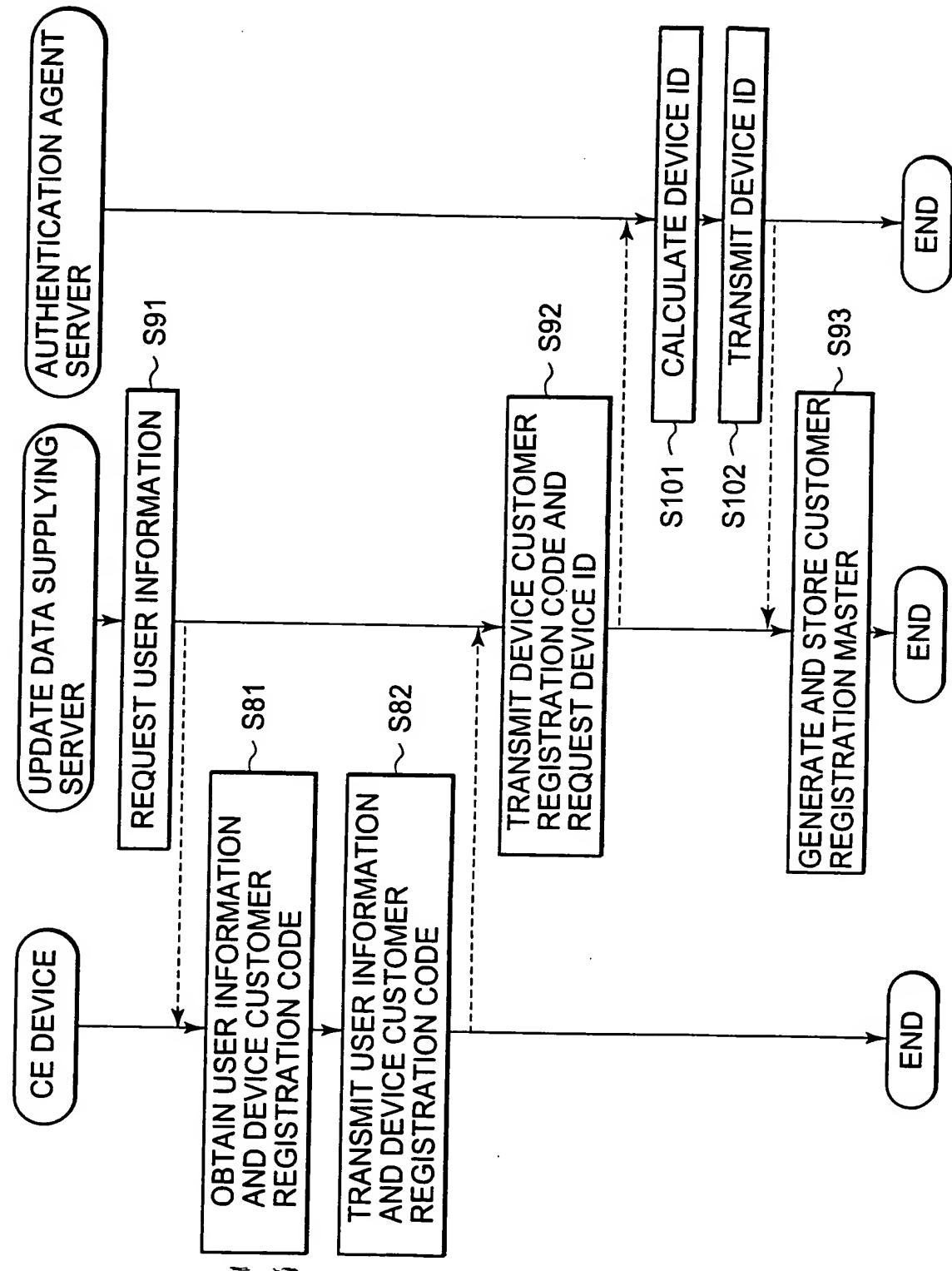


FIG. 14

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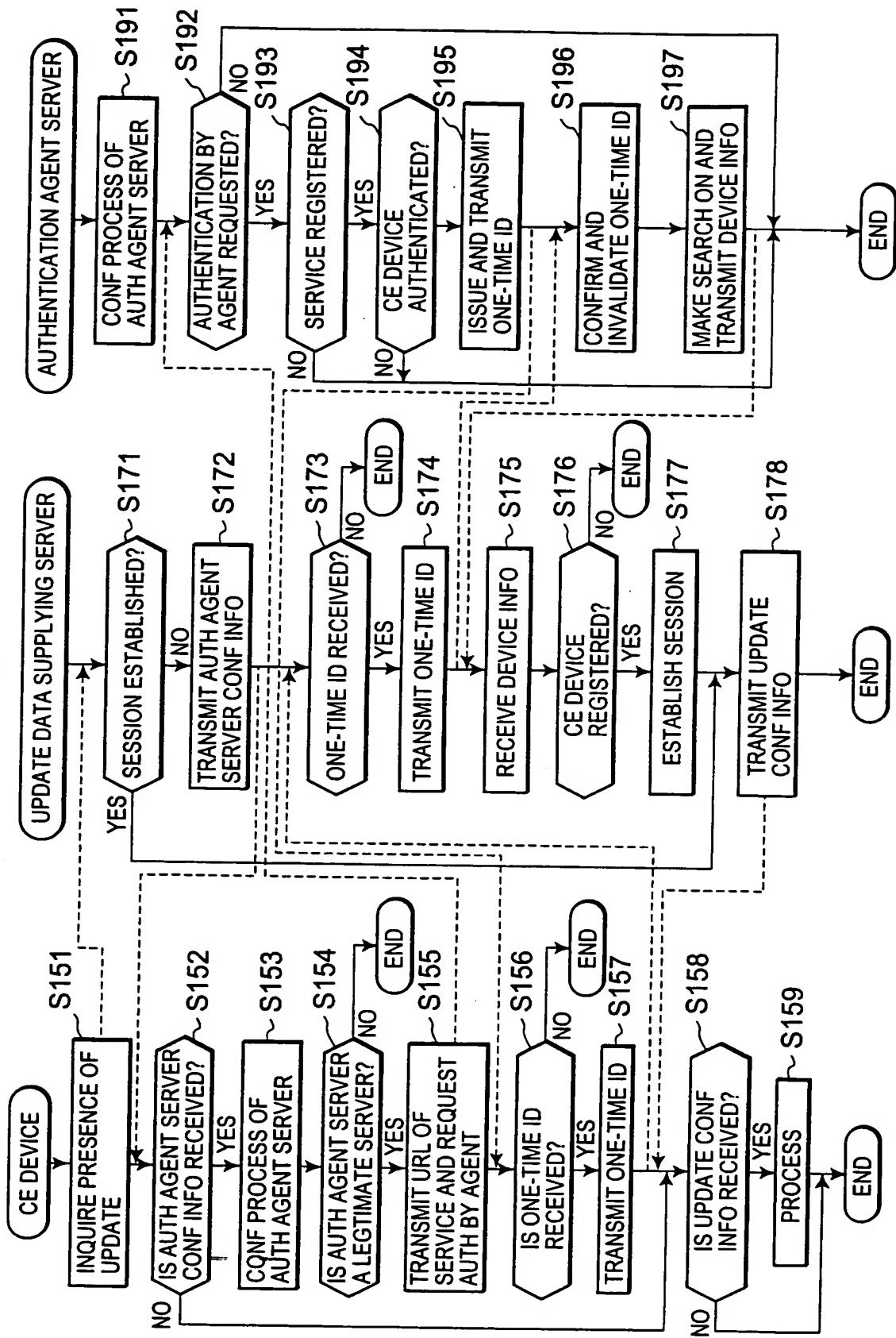


FIG. 15

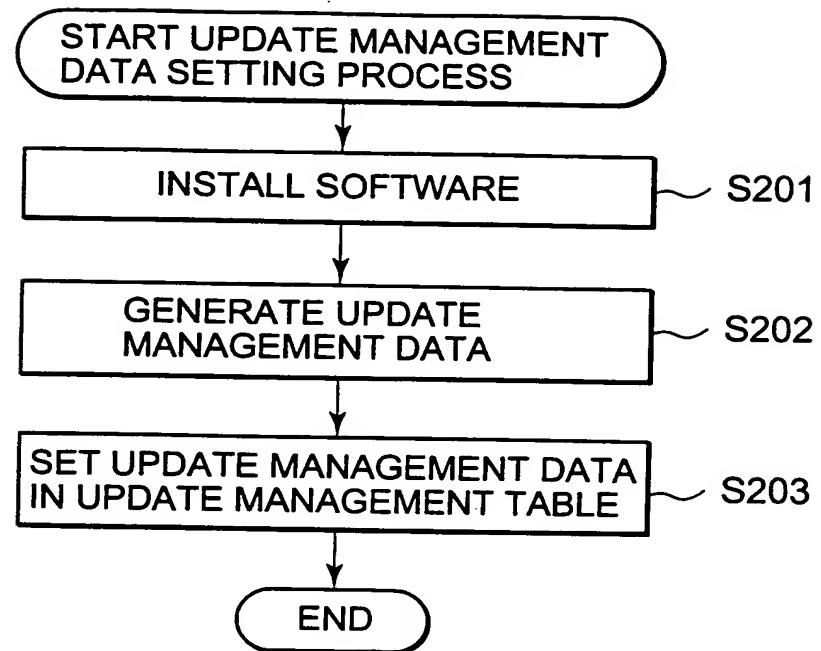


FIG. 16

NAME OF SOFTWARE	SOFTWARE ID	VERSION NUMBER	CONFIRMATION CYCLE	URL OF UPDATE DATA SUPPLYING SERVER
NAME OF SOFTWARE A	XXXXXX	XX	EVERY DAY (10:00)	XXXX
NAME OF SOFTWARE B	XXXXXX	XX	EVERY MONDAY (11:00)	XXXX
NAME OF SOFTWARE C	XXXXXX	XX	ON THE 1st DAY OF EVERY MONTH (12:00)	XXXX
NAME OF SOFTWARE D	XXXXXX	XX	EVERY DAY (14:00)	XXXX

FIG. 17

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47A

NAME OF SOFTWARE	CONFIRMATION CYCLE
NAME OF SOFTWARE A	EVERY DAY (10:00)
NAME OF SOFTWARE B	EVERY MONDAY (11:00)
NAME OF SOFTWARE C	ON THE 1st DAY OF EVERY MONTH (12:00)
NAME OF SOFTWARE D	EVERY DAY (14:00)

CONFIRM ALL WHEN POWER IS TURNED ON

FIG. 18

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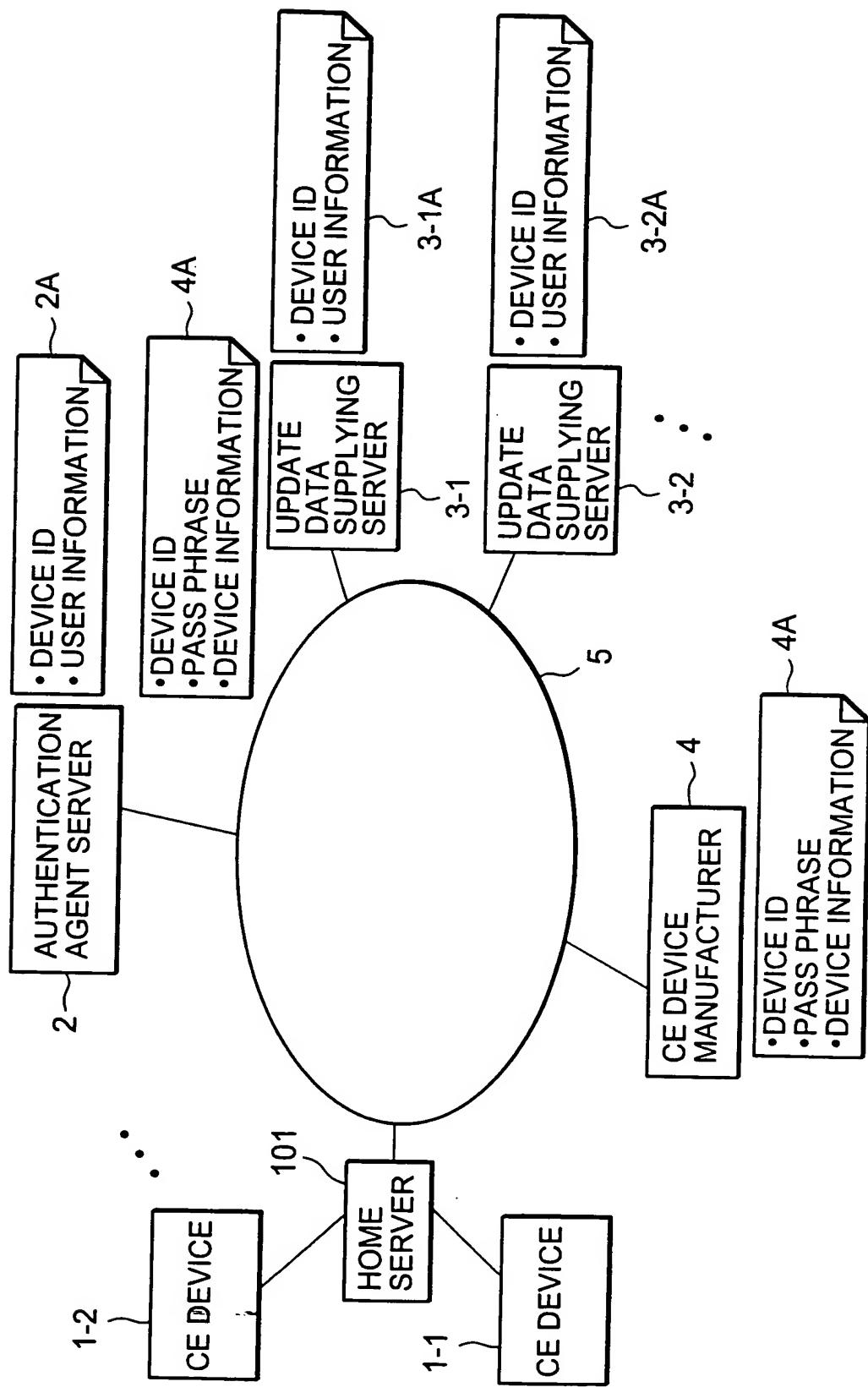


FIG. 19

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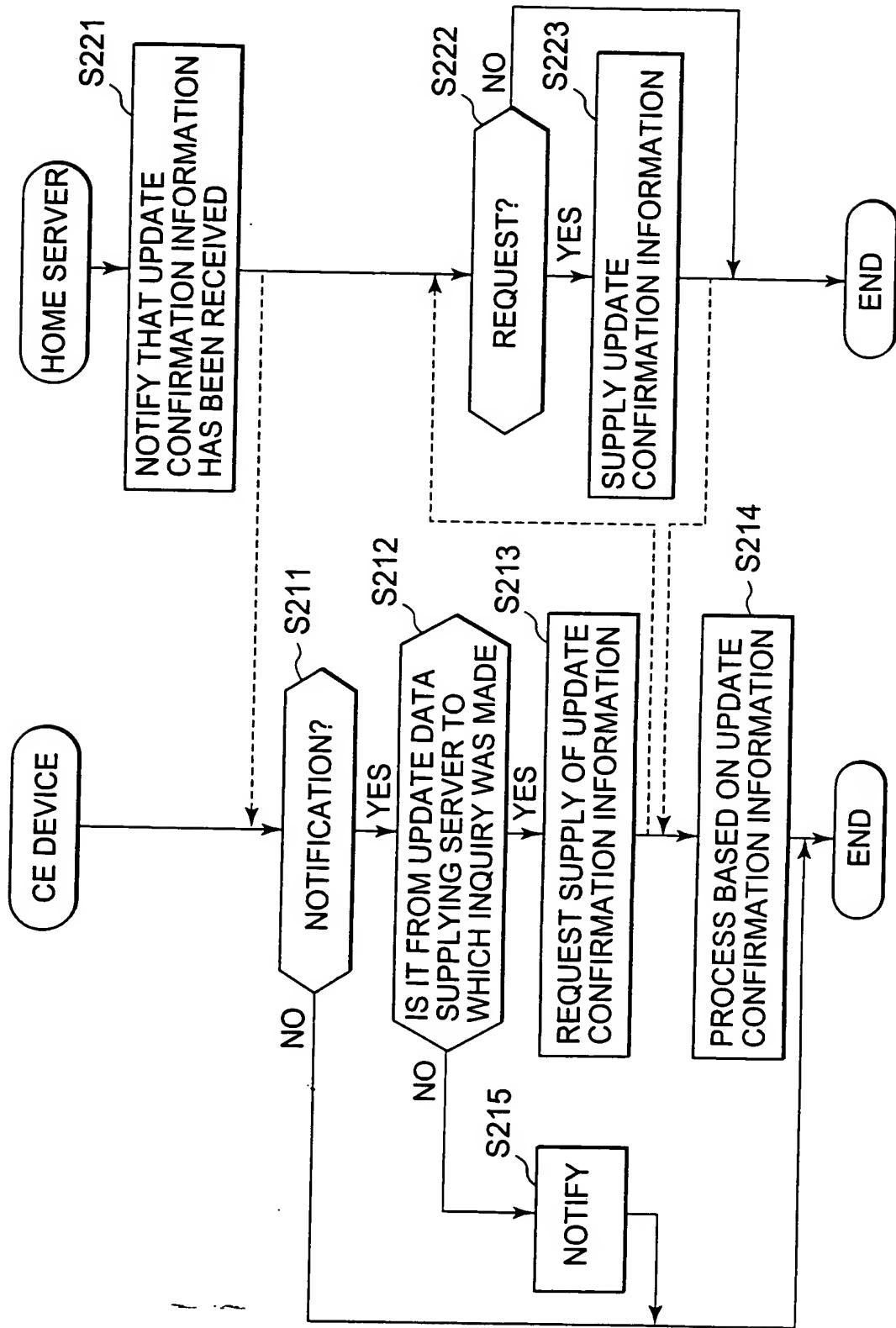


FIG. 20

